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**COMPLIANCE IS MANDATORY** 

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**Responsible Office: Exploration Systems Mission Directorate** 

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# **CHAPTER 3. Implementation**

Summary of Software Release Process

Section 3.1Software Release Authority (SRA) to conduct training

Section 3.2SRA coordinates software release process

Section 3.2.1SRA may provide supplemental guidance

Section 3.2.2Software developer prepares New Technology Report

Section 3.3SRA coordinates software assessments

Section 3.4Center Patent or Intellectual Property Counsel prepares an Intellectual Property Assessment

Section 3.5 Manager for Technology Transfer assesses the software's technology the software's commercial readiness and potential

Section 3.6Center Export Administrator determines export control requirements for foreign releases

Section 3.7Center Information Technology Security Manager provides a security assessment

Section 3.8Program/Project Manager provides programmatic restrictions and recommendations

Section 3.9SRA authorizes software release under appropriate restrictions

#### 3.1 Center Awareness and Orientation Activities

The Software Release Authority will conduct awareness activities and orientation sessions for Center civil servants and contractors to support the implementation of NPD 2210.1 and this NPR.

# 3.2 Reporting and Inventory

- 3.2.1. The Center Software Release Authority will ensure that software subject to NPD 2210.1 and this NPR is reported (in compliance with NPD 2091.1 for NASA employees, and the Patent Rights or New Technology clauses for NASA contractors and grantees) and inventoried prior to any external release. The NASATechTracS Information System shall be used for these purposes.
- 3.2.2. The Software Release Authority may establish supplemental guidance in support of NPD 2210.1 and this NPR to determine the applicability of NPD 2210.1 to software funded by the Center, and to otherwise administer the implementation of NPD 2210.1 and this NPR.
- 3.2.3. Software subject to NPD 2210.1 and this NPR, as described in Section P.2 and as determined by the Center Software Release Authority under paragraph 1.2.1.6, must be formally reported to NASA prior to any release. In accordance with paragraph P.2.c, new software is subject to NPD 2210.1 and this NPR. A merely trivial variation or improvement of preexisting software includes minor code improvements that do not materially alter the software's operation. Thus, this reporting requirement applies to new software that has not yet been reported, and to software reported under NPD 2210.1 where new functionality has been added to the software since it was reported. This reporting requirement applies to software submitted and accepted into NASA's Agency inventory prior to the effective date of NPD 2210.1, dated October 17, 1997, only if such software has been modified by more than a merely trivial variation or improvement thereof by a NASA employee or a NASA contractor. The Agency inventory means official repositories that exist currently or may have previously existed such as the Computer Software

Management and Information Center (COSMIC).

- 3.2.4. Although a grant is an inappropriate instrument for developing software for NASA, where a grantee has developed software as a consequence of performing activities under a grant, the grantee should report the software as a potentially patentable software-related invention.
- 3.2.5. In accordance with NPD 2091.1, Government employee-created software will be reported by the software's creator to the Center Patent or Intellectual Property Counsel or, if no Patent or Intellectual Property Counsel is assigned, to the Center personnel designated to receive invention disclosures. Contractors will report software created by their employees or subcontractors to the NASA New Technology Representative named in the contract. The NASA New Technology Representative will provide the Center Patent or Intellectual Property Counsel with copies of contractor reports disclosing software. Government employees will report software on NASA Form (NF) 1679 "Disclosure of Invention and New Technology (Including Software)." Contractors may report software on NF 1679 or on their own New Technology Reporting form. However, contractor reports shall at least include information equivalent to that disclosed in NF 1679. Reports must be filed and maintained in a system of records and safeguarded until disposition per guidance provided in NPR 1441.1. In addition, all software disclosures must:
- a. Identify the individuals contributing to the concept expressed by the software (i.e., the underlying functional method or process that is implemented by the software) as well as those individuals involved in coding the actual software:
- b. Indicate where the software is an improvement or innovation;
- c. Identify any proprietary source code or object code that is incorporated into the software and is owned by a non-federal entity;
- d. Indicate whether a license has been obtained in situations where source code or object code owned by a non-federal entity has been incorporated into the software; and,
- e. Indicate whether any known export restrictions apply to the software.

#### 3.3 Review and Assessment

The Software Release Authority will coordinate the review and assessment of reported software by the Center Patent or Intellectual Property Counsel; the Manager for Technology Transfer; the Center Information Technology Security Manager, and the Center Export Administrator.

## 3.4 Intellectual Property Assessment

- 3.4.1. The Center Patent or Intellectual Property Counsel will make an Intellectual Property Assessment of all reported software to determine NASA's rights in the software, to identify any appropriate release restrictions as defined in paragraphs 3.4.4.1 to 3.4.4.4, and to determine the suitability of software for patent and/or copyright protection.
- 3.4.2. The Center Patent or Intellectual Property Counsel will determine the suitability of software for patent and/or copyright protection.
- 3.4.2.1. The Center Patent or Intellectual Property Counsel will identify the authors and inventors of software. Accordingly, individuals contributing to the concept expressed by the software (i.e., the underlying functional method or process that is implemented by the software) must be identified as well as those individuals involved in coding the actual software or software modification.
- 3.4.2.2. The Center Patent or Intellectual Property Counsel will review the software to see if it satisfies the criteria for patentable subject matter and whether or not it is a work of the U.S. Government as defined in paragraph 3.4.3.2. The underlying functional concepts and/or ideas in software may be protected through patenting, whereas the actual software code created, expressing those concepts, may be protected through copyright.
- 3.4.3. The Center Patent or Intellectual Property Counsel will determine ownership of software for purposes of obtaining patent and/or copyright protection as well as for assessing NASA's right to release the software. Determination of ownership and patent and/or copyright protection will facilitate licensing and distribution of the software.
- 3.4.3.1. Patents NASA can obtain domestic and/or foreign patents on the ideas, algorithms and processes underlying the software if they satisfy the requirements for patentable subject matter. Normally, all parties must assign their interest in the software to the Government before NASA will file a patent application. If patentable subject matter is found and a patent application is filed, the U.S. Patent and Trademark Office will provide a license for foreign exporting and filing under 37 C.F.R. Part 5, if appropriate, for the purpose of filing foreign patent applications.
- 3.4.3.2. Copyrights Software created solely by an officer or employee of the U. S. Government as part of that

- person's official duties is a work of the U. S. Government. Copyright protection is not currently available in the United States for a work of the U. S. Government. However, the Government can claim foreign copyrights for software created by its employees and can receive and hold copyrights transferred to it by assignment.
- 3.4.3.2.1. NASA can direct its contractors to assert their copyright and assign it to the U.S. Government when software is created under a NASA contract. If the contractor provides an acceptable plan to commercialize the software and the Contracting Officer, in consultation with the Center Patent or Intellectual Property Counsel, provides the contractor written permission to assert copyright in the software code, the contractor may retain the copyright with the Government retaining a license for use by and for the Government. This license does not, however, include the right to distribute the software to the public.
- 3.4.3.2.2. Software that is a joint work between NASA employees and NASA contractors is protected under copyright and, absent an agreement to the contrary, is co-owned by the U.S. Government and the contractor, with each having an independent right to use or license the use of the work with an obligation to account for royalties.
- 3.4.4. Center Patent or Intellectual Property Counsel will identify software as falling under one or more of the categories listed in the following subparagraphs. As circumstances change, the Center Patent or Intellectual Property Counsel may reevaluate and recategorize the software as appropriate.
- 3.4.4.1. Releasable Without a Nondisclosure Agreement Software that has been categorized as Approved for General Public Release and becomes Publicly Releasable Software as defined in paragraph 2.1.7 is releasable without a nondisclosure agreement. Software that has not been categorized as Approved for General Public Release but (a) is a work of the U.S. Government as defined in paragraph 3.4.3.2, (b) is not export restricted, (c) is not, and is not expected to be, the subject of a patent application, and (d) for which there is no plan for further development or beta testing, may be released without a nondisclosure agreement. This type of release should be used with caution to avoid creating a statutory bar to patenting.
- 3.4.4.2. Releasable With a Nondisclosure Agreement In general, software, as valuable property, is not an agency record under the Freedom of Information Act (FOIA), and therefore is not subject to the mandatory disclosure provisions of the FOIA. Thus, with limited exceptions, software may be categorized as releasable with a nondisclosure agreement. The limited exceptions include software that (a) contains an embedded database that is itself releasable under the FOIA, (b) is so related to a releasable database that the database would be unintelligible or unusable without the software, and (c) preserves information relative to the Agency's structure, operation, or decision-making process. To avoid creating a statutory bar for patenting, software that is being reviewed by the Patent or Intellectual Property Counsel for patentable subject matter and the filing of a patent application should be categorized as releasable with a nondisclosure agreement. Additionally, software that is part of an application for patent filed in the U. S. Patent and Trademark Office, or with any foreign patent office, may be categorized as releasable with a nondisclosure agreement.
- 3.4.4.3. Releasable for U.S. Government Purposes Software that has U.S. Government purpose only restrictions on use, copying, distribution, etc., may be categorized as releasable for U.S. Government purposes only. A U.S. Government purpose is any activity in which the U.S. Government is a party, including contracts, grants, and cooperative agreements. Government purposes include competitive procurements for the Government, but do not include the rights to use, modify, reproduce, release, perform, display, or disclose a copyright work for commercial purposes or authorize others to do so. Thus, the Government may release or disclose such software outside the government and authorize persons to whom release or disclosure has been made to use, modify, reproduce, release, perform, display, or disclose the software for Government purposes only.
- 3.4.4.4. Not Releasable Software owned by a non-federal party shall be categorized as generally not releasable unless permission is granted by its owner. Software in the lawful possession of NASA that includes restrictions on further use, duplication, or disclosure based on an underlying contract, license, or other agreement shall be categorized as not releasable unless permission is granted by its owner. Even with such permission, an export control assessment in accordance with Section 3.6 is required if the proposed release is to a foreign person.
- 3.4.4.5. Licensable Software Software categorized as Licensable Software, as defined in Section 2.1, shall be consistent with commercialization objectives and shall be coordinated with the Manager for Technology Transfer Office, or designee.
- 3.4.4.5.1. The licensing of software that is the subject of a patent or patent application owned by the Government is governed by the Department of Commerce regulations (37 C.F.R. Part 404) on Licensing of Government-Owned Inventions. The licensing of copyrights owned by the Government is not covered under any existing-licensing regulations. However, it is NASA policy that, after NASA has provided public notice of the availability of software for licensing, software copyrights owned by the Government may be licensed on a nonexclusive, exclusive, or partially exclusive basis in a manner similar to that specified in the Department of Commerce regulations on Licensing of Government-Owned Inventions.
- 3.4.4.5.2. Royalty Sharing In accordance with NPD 2092.1, all royalties received by NASA Centers from the licensing of software will be forwarded to the Office of the General Counsel (Code GP), NASA Headquarters. The Office of General Counsel will coordinate the distribution of royalties with the Office of the Chief Financial Officer,

NASA Headquarters. Royalties received by NASA from the licensing of software that is the subject of a patent or a patent application may be distributed as prescribed in NPD 2092.1 and NPR 2092.1. Other royalties received by NASA from the licensing of software, absent statutory authority, must be forwarded by NASA Headquarters to the U. S. Treasury.

## 3.5 Technology Transfer Assessment

- 3.5.1. The Manager for Technology Transfer, or designee, will coordinate an assessment of reported software's technology transfer readiness and potential. The assessment will consider the software's value or utility to potential private or public sector users and applications outside of NASA.
- 3.5.2. External individuals or organizations and NASA contractors, grantees, and Space Act Agreement partners with whom NASA has nondisclosure arrangements, may provide research and analysis in support of the assessment. The disclosure of NASA-funded software to such individuals and organizations should be conducted as part of the NASA decisionmaking process for NPD 2210.1 and this NPR, and should provide protection against the unintended public release of NASA-funded software.
- 3.5.3. The assessment should include strategies and recommendations for the transfer of the software which will maximize its benefit to NASA, the U.S. public, and the U.S. economy.

### 3.6 Export Control Assessment

- 3.6.1. The Center Export Administrator will coordinate a review of reported software when required to determine export control requirements, and will provide guidance and oversight to ensure that any intended foreign release of software (including a release into the public domain) complies with applicable export control laws and the NASA Export Control Program. While this assessment is only required for releases that legally constitute exports, it may be requested and used for decisionmaking by the Software Release Authority in determining appropriate categorization and availability for release in other situations. The Center Export Administrator will ensure that any intended foreign release of NASA software will comply with (1) the U.S. State Department regulations for software falling within the purview of the United States Munitions List, or (2) the U.S. Department of Commerce regulations for software falling within the jurisdiction of the Department of Commerce.
- 3.6.2. All requests for the external release of command & control (C&C) software for flight operations must have the endorsement of the NASA Center officials with management responsibility for development, acquisition, and implementation of the requested C&C software.
- 3.6.3. All requests for the external release of C&C software are subject to the Export Control Assessment established by NPD 2210.1 and this NPR. The Center Counter-Intelligence official will be consulted as part of the export control assessment of C&C software.
- 3.6.4. During the Export Control Assessment of C&C software considered for release, the Center Export Administrator, as warranted, will consult with the Center Inspector General's Office.
- 3.6.5. Applicability The export control laws cover the export of software outside the United States but do not cover domestic release of software unless the release is to a foreign person in the United States or to persons on U.S. sanctioned- or denied-parties lists. Therefore, a Beta Release or Developmental Release to a United States citizen in the United States is generally not an export. A release to a foreign person in the United States or abroad or public access to software on the Internet are both considered an export. A General Public Release, as described in paragraph 2.2.2, is always considered an export due to its availability to any foreign entity. A release must be limited to a U.S. person as defined in 22 CFR 120.15 and not appearing on any U.S. sanctioned- or denied-parties lists unless approval to export the software has first been obtained by the Center Export Administrator. Additionally, any software that is being exported should prominently display appropriate Export Administration Regulations (EAR) and International Traffic in Arms Regulations (ITAR) legends, if the software has been determined to be export controlled by the Center Export Administrator.
- 3.6.6. Foreign Release The decision to support a foreign release or export is made by the Software Release Authority in consultation with a cognizant program official. An affirmative decision to allow a foreign release or export requires that the designated Center Export Administrator become involved to determine the proper manner to export the software.
- 3.6.7. Unauthorized Foreign Release An employee who makes a foreign release without authorization risks violating the EAR or the ITAR, which may result in criminal, civil, or administrative action against both the Agency and the employee.

# 3.7 Information Technology Security Assessment

3.7.1. The Center ITSM will advise and assist the Center SRA and the cognizant software development and assurance organizations in the identification and the mitigation or elimination of information technology security risks

- associated with the external release of software considered within the scope and purpose of NPD 2210 and this NPG. A key objective of Center ITSM advice and assistance is to ensure the integrity of NASA information technology systems and to prevent unauthorized access to NASA computing resources.
- 3.7.2. The PCITS guidance shall include a standard checklist or specific criteria for use by the Center SRA and/or the cognizant software development and assurance organizations in performing an IT security assessment of all software considered for external release.
- 3.7.3. If the PCITS guidance requires interpretation in its application, the Center SRA or the cognizant software development and assurance organizations shall consult with their Center ITSM to provide clarification. Software that is modified to mitigate or eliminate identified IT Security risks prior to its release shall be re-assessed upon the documented completion of risk reduction measures.
- 3.7.4. The results of the IT security assessment of the software considered for external release shall be documented by the software development organization and provided to the Center SRA for use in determining the release of software in accordance with the PCITS guidance. A copy of the assessment results shall be provided to the Center ITSM. The Center SRA and the Center ITSM, as deemed warranted by either party, shall jointly consider a given IT security assessment prior to the release of the subject software.

## 3.8 Release Restrictions and Options

- 3.8.1. The Software Release Authority is responsible for ensuring that the external release of applicable software created by and for the Center is accomplished in accordance with NPD 2210.1 and this NPR. Accordingly, the Software Release Authority will consider recommendations and determinations resulting from Sections 3.4 through 3.7 and programmatic objectives in establishing the release restrictions and the approved option(s) for releasing the specified software.
- 3.8.2. Release Restrictions The Software Release Authority is authorized to release software more restrictively than determined by Center Patent or Intellectual Property Counsel and the Center Export Administrator. However, in no event will the Software Release Authority release software less restrictively than determined by Center Patent or Intellectual Property Counsel in paragraphs 3.4.4.1 through 3.4.4.4, by the Center Export Administrator in Section 3.6, or by the Center ITSM in Section 3.7. Upon consulting with the Software Innovator where necessary, the Software Release Authority has the authority to categorize software as Software Code Baseline, Software Product Baseline, Software Accepted (As Built) Baseline or Publicly Releasable Software as those terms are defined in Section 2.1. The Center Patent or Intellectual Property Counsel has the authority to categorize software as Licensable Software as defined in Section 2.1. The following specific release restrictions may apply to any of the release options, as follows:
- a. The Software Release Authority may authorize a Beta Release, as defined in paragraph 2.2.5.1, only upon NASA's receipt and acceptance of nondisclosure and feedback agreements. A Beta Release is only appropriate for the purpose of obtaining test and evaluation comments and feedback on the operation of a computer program from beta release recipients. A Beta Release to a foreign organization, consistent with paragraphs 2.2.5.2 and 3.8.3.c, may be authorized by the Software Release Authority in consultation with the Center Export Administrator.
- b. The Software Release Authority may authorize a Project Release, as defined in paragraph 2.2.5.2, only through written contract or agreement that includes appropriate nondisclosure provisions. At a minimum, NASA should obtain Government purpose license rights to any software enhancements or derivative works made by a recipient of a developmental release.
- c. The Software Release Authority may not authorize an Unrestricted Release as defined in paragraph 2.2.6.
- 3.8.3. The Software Release Authority will identify, consistent with the established release restrictions, the approved options for releasing specified software as defined in Section 2.2. In addition to the release restrictions identified in Section 2.2, the following restrictions apply to the specified release options:
- a. Project Release, as defined in paragraph 2.2.5.2, for NASA contracts or grants The release must specifically limit the use of the software to the contractor and specifically identified subcontractors, solely to accomplish the work described in the contract or grant. Upon approval by the Software Release Authority, the release may be implemented by the cognizant technical project monitor and may be made before the Intellectual Property Assessment is completed under an appropriate nondisclosure agreement. Nondisclosure agreements and/or export licenses are required when needed.
- b. Project Release, as defined in paragraph 2.2.5.2, for use in the United States with a Space Act Agreement, cooperative project, exchange program, or other agreement between NASA and another organization The release must specifically limit the use of the software to the stated recipient, solely to accomplish the work described in the agreement, or if further distribution is approved, delineate any NASA-approved distribution of the released software.
- c. Project Release, as defined in paragraph 2.2.5.2, for use by a foreign organization to implement an international cooperative project established by NASA in a project agreement with the foreign cooperating or sponsoring agency -

the release must specifically limit the use of the software to the stated recipient and must prohibit any further distribution.

- d. Patent and copyright licensing to external entities The licensing strategy (e.g., nonexclusive, exclusive, partially exclusive) will be determined by the Manager for Technology Transfer, or designee, in consultation with the Center Patent or Intellectual Property Counsel.
- e. General U.S. Release, as defined in paragraph 2.2.4, to external individuals and organizations may be made by the Center directly, or by the Center via a designated NASA agent for software transfer and distribution (i.e., NASA contractor, grantee or Space Act Agreement partner). A General U.S. Release via a designated agent is subject to NPD 2210.1 and this NPG. Restrictions on the use and distribution of software via a designated agent may be established by NASA.
- 3.8.4. Disclaimer and Indemnification All software released by NASA shall contain appropriate disclaimer and indemnification provisions stating that the software is provided without any warranty, expressed or implied, and that the recipient waives any claims against, and indemnifies and holds harmless, the Government and its contractors and subcontractors. The disclaimer and indemnification provisions should be included in the SUA and, where practicable, should be displayed on software startup and/or be attached as a label to the software medium released. Sample provisions are provided, as follows:
- a. This software is provided "as is" without any warranty of any kind, either expressed, implied, or statutory, including, but not limited to, any warranty that the software will conform to specifications, any implied warranties of merchantability, fitness for a particular purpose, or freedom from infringement, any warranty that the software will be error free, or any warranty that documentation, if provided, will conform to the software. In no event shall the U.S. Government, or the U.S. Government's contractors or subcontractors, be liable for any damages, including, but not limited to, direct, indirect, special or consequential damages, arising out of, resulting from, or in any way connected with this software, whether or not based upon warranty, contract, tort, or otherwise, whether or not injury was sustained by persons or property or otherwise, and whether or not loss was sustained from, or arose out of the results of, or use of, the software or services provided hereunder.
- b. Recipient agrees to waive any and all claims against the U.S. Government, and the U.S. Government's contractors and subcontractors, and shall indemnify and hold harmless the U.S. Government, and the U.S. Government's contractors and subcontractors, for any damage that recipient may incur from recipient's prior or future use of the provided software, including any damages from products based on, or resulting from, the use thereof.
- c. If further release or distribution of this software or technical data derived from this software is permitted, recipient agrees to obtain this identical disclaimer of warranty agreement and waiver of claims, indemnification and hold harmless agreement with any entities that receive the software or technical data derived from the software.

#### 3.8.5. Notices

- 3.8.5.1. Copyright Notice As app, ropriate, software released by NASA shall contain a copyright notice as follows: "Copyright [or "] (if published: year of first publication; if unpublished: Unpublished--all rights reserved) U. S. Government as represented by the Administrator of the National Aeronautics and Space Administration [or the name of any non-federal owner of the copyright that has granted NASA the right to release the software]."
- 3.8.5.1.2. Software identified as a work of the U. S. Government, as defined in paragraph 3.4.3.2, shall contain the following additional language: "No copyright is claimed in the United States under Title 17, U.S. Code."
- 3.8.5.2. Restrictive Notice Software released under disclosure or other restrictions shall contain an appropriate notice specifying such restrictions. An example provision is provided, as follows:

"This software may be used, copied, and provided to others only as permitted under the terms of the contract or other agreement under which it was acquired from the U.S. Government. Neither title to nor ownership of the software is hereby transferred. This notice shall remain on all copies of the software."

## 3.9 Release Records and Metrics Reporting

- 3.9.1. Release Records The Software Release Authority is responsible for establishing and maintaining release records. The unrestricted release of NASA software (i.e., without a release record) is prohibited. If the release is solely by electronic means, an Internet Protocol Address, by itself, is insufficient for identification purposes. An archive copy of the Software Code Baseline, the Software Product Baseline and the Software Accepted (As-Built) Baseline must be maintained at the Center. An unidentified release of NASA software does not provide NASA with the ability to measure the interest generated by the software or track the owner of a particular version of the software. Release Records will be safeguarded, maintained, and disposed of per guidance provided in NPR 1441.1.
- 3.9.2. The performance measures or metrics, as established by NPD 2210.1, will be reported semiannually (due 2 weeks following the end of 2nd and 4th fiscal year quarters) by the Center SRA to the Director, Innovative

Technology Transfer Partnerships Division at NASA Headquarters. To the extent feasible, the NASA TechTracS Information system will be used to record and maintain metrics data.

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